

SEQUENCE LISTING

<110> MERKULOV, Gennady et al.

<120> ISOLATED HUMAN PROTEASE PROTEINS,  
NUCLEIC ACID MOLECULES ENCODING HUMAN PROTEASE PROTEINS, AND  
USES THEREOF

<130> CL001177DIV2

<140> (to be assigned)  
<141> 2001-12-14

<150> 09/813,819  
<151> 2001-03-22

<150> 09/920,048  
<151> 2001-08-02

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 2968  
<212> DNA  
<213> Homo sapiens

<400> 1  
cgacctggcc gcccggcgt cttccgcgcg ctgttccgca cttgctgcc tcgccccggcc 60  
cggagcggcc ctggccatgcg gctggcgctg ctctggggcc tggggctcct gggcgccggc 120  
agccctctgc cttcctggcc gctcccaa atagccctgc tgtcgattcc ctcagtaactg 180  
tcttgggttg tcctgggacc tgcagggtggc actgaggagc agcaggcaga gtcagagaag 240  
gccccgaggg agcccttggaa gccccaggtc cttcaggacg atctcccaat tagcctcaaa 300  
aagggtgcttc agaccagtct gcctgagccc ctgaggatca agttggagct ggacggtgac 360  
atcatatatcc tggagctgct acagaatagg gagttggtcc caggccgccc aaccctggtg 420  
tggtaccacg ccgatggcac tcgggtggc agtgaggac acactttgga gaactgctgc 480  
taccaggggaa gagtgccggg atatgcaggg tcctgggtgt ccatctgcac ctgctctggg 540  
ctcagaggct tggtggctt gaccccgagag agaagctata ccctggagca ggggcctggg 600  
gaccttcagg gtcctccat tatttcgca atccaagatc tccacctgcc agggccacacc 660  
tgtgccctga gctggggaa atctgtacac actcagacgc caccagagca cccctggga 720  
cagcgcacaca ttccggag gcccggatgtg gtaacagaga ccaagactgt ggagttggtg 780  
atgtggctg atcactcgga gcccggagaaa taccggact tccagcacct gctaaaccgc 840  
acacttggaa tggccctt gctggacaca ttcttccggc ccctgaatgt acgagtggca 900  
ctagtggggcc tggaggcctg gacccagcgt gacctgggtgg agatcagccc aaaccaggct 960  
gtcaccctcg aaaacttccct ccactggcgc agggcacatt tgctgcctcg attgccccat 1020  
gacagtggcc agctgggtac tggacttca ttctctggc ctacgggtgg catggccatt 1080  
cagaactcca tctgttctcc tgacttctca ggagggtgtga acatggacca ctccaccagc 1140  
atccctggggag tcgcctccctc catagcccat gagttggcc acagcctggg cctggaccat 1200  
gatttgcctg ggaatagctg cccctgtcca ggtccagccc cagccaagac ctgcatcatg 1260  
gaggcctcca cagacttcct accaggcctg aacttcagca actgcagccg acggggccctg 1320  
gagaaagccc tcctggatgg aatgggcagc tgcctctcg aacggctgcc tagcctaccc 1380  
ccttatggctg ctttctgcgg aaatatgtt gtggagccgg gcgagcagtg tgactgtggc 1440  
ttcctggatg actgcgtcga tccctgtgtt gattttga cctgccagct gaggccaggt 1500  
gcacagtgtg catctgacgg accctgttgtt caaaattgcc agctgcggcc gtctggctgg 1560  
cagtgtcgtc ctaccagagg ggattgtgac ttgcctgaat tctgcccagg agacagctcc 1620  
cagtgtcccc ctgatgtcag ccttagggat ggcgagccct ggcgtggcgg gcaagctgtg 1680

tgcatgcacg ggcgttgc ctcctatgcc cagcagtgc agtcaacttg gggacctgga 1740  
 gcccagcccg ctgcgccact ttgcctccag acagctaata ctcggggaaa tgctttggg 1800  
 agctgtggc gcaaccagg tggcagttat gtgtcctgca cccctagaga tgccatttg 1860  
 gggcagctcc agtgcacagc aggtaggacc cagcctctgc tgggctccat ccggatcta 1920  
 ctctggaga caatagatgt gaatgggact gagctgaact gcagctgggt gcacctggac 1980  
 ctggcagtg atgtggcca gcccctcctg actctgcctg gcacagcctg tggccctggc 2040  
 ctggtgtta tagaccatcg atgcccagct gtggatctcc tggggcaca ggaatgtcga 2100  
 agcaaatgcc atggacatgg ggtctgtgac agcaacaggc actgctactg tgaggaggc 2160  
 tgggcacccc ctgactgcac cactcagctc aaagcaacca gctccctgac cacaggctg 2220  
 ctccctcagcc tcctggtctt attggtcctg gtgatgctt gtgcgcgacta ctggtaccgt 2280  
 gcccgcctgc accagcgact ctgcccagctc aagggaccca cctgcccagta cagggcagcc 2340  
 caatctggtc cctctgaacg gccaggaccc cccgcagaggg ccctgctggc acgaggcact 2400  
 aaggcttagt ctctcagctt cccggcccccc cttccaggc cgctgcggcc tgaccctgtg 2460  
 tccaagagac tccagtctca gggccagcc aagcccccac ccccaaggaa gccactgcct 2520  
 gccgacccccc agggccgggt cccatcggt gacctgccc gcccaggggc tggaatcccg 2580  
 cccctagtg taccctccag accagcgcca ccgcctccga cagtgtcctc gctctacctc 2640  
 tgacctctcc ggaggttccg ctgcctccaa gccggactta gggcttcaag aggccggcgt 2700  
 gccctctgga gtcccttacc atgactgaag gcgcgcagaga ctggcggtgt cttaagactc 2760  
 cgggcaccgc cacgcgcgt caagcaacac tctgcggacc tgccggcgta gttgcagcgg 2820  
 ggcttgggg agggctggg ggttggacgg gattgaggaa ggtccgcaca gcctgtctct 2880  
 gtcagttgc aataaacgtg acatcttggaa aaaaaaaaaaaaaaaa aaaaaaaaaaaaaaaa 2940  
 aaaaaaaaaaaaaaaa aaaaaaaaaaaaaaaa 2968

<210> 2  
 <211> 855  
 <212> PRT  
 <213> Homo sapiens

<400> 2  
 Met Arg Leu Ala Leu Leu Trp Ala Leu Gly Leu Leu Gly Ala Gly Ser  
     1               5                 10                 15  
 Pro Leu Pro Ser Trp Pro Leu Pro Asn Ile Ala Leu Leu Ser Ile Pro  
     20               25                 30  
 Ser Val Leu Ser Trp Gly Val Leu Gly Pro Ala Gly Gly Thr Glu Glu  
     35               40                 45  
 Gln Gln Ala Glu Ser Glu Lys Ala Pro Arg Glu Pro Leu Glu Pro Gln  
     50               55                 60  
 Val Leu Gln Asp Asp Leu Pro Ile Ser Leu Lys Lys Val Leu Gln Thr  
     65               70                 75                 80  
 Ser Leu Pro Glu Pro Leu Arg Ile Lys Leu Glu Leu Asp Gly Asp Ser  
     85               90                 95  
 His Ile Leu Glu Leu Leu Gln Asn Arg Glu Leu Val Pro Gly Arg Pro  
     100              105                 110  
 Thr Leu Val Trp Tyr Gln Pro Asp Gly Thr Arg Val Val Ser Glu Gly  
     115              120                 125  
 His Thr Leu Glu Asn Cys Cys Tyr Gln Gly Arg Val Arg Gly Tyr Ala  
     130              135                 140  
 Gly Ser Trp Val Ser Ile Cys Thr Cys Ser Gly Leu Arg Gly Leu Val  
     145              150                 155                 160  
 Val Leu Thr Pro Glu Arg Ser Tyr Thr Leu Glu Gln Gly Pro Gly Asp  
     165              170                 175  
 Leu Gln Gly Pro Pro Ile Ile Ser Arg Ile Gln Asp Leu His Leu Pro  
     180              185                 190  
 Gly His Thr Cys Ala Leu Ser Trp Arg Glu Ser Val His Thr Gln Thr  
     195              200                 205  
 Pro Pro Glu His Pro Leu Gly Gln Arg His Ile Arg Arg Arg Arg Asp  
     210              215                 220

Val Val Thr Glu Thr Lys Thr Val Glu Leu Val Ile Val Ala Asp His  
 225 230 235 240  
 Ser Glu Ala Gln Lys Tyr Arg Asp Phe Gln His Leu Leu Asn Arg Thr  
 245 250 255  
 Leu Glu Val Ala Leu Leu Asp Thr Phe Phe Arg Pro Leu Asn Val  
 260 265 270  
 Arg Val Ala Leu Val Gly Leu Glu Ala Trp Thr Gln Arg Asp Leu Val  
 275 280 285  
 Glu Ile Ser Pro Asn Pro Ala Val Thr Leu Glu Asn Phe Leu His Trp  
 290 295 300  
 Arg Arg Ala His Leu Leu Pro Arg Leu Pro His Asp Ser Ala Gln Leu  
 305 310 315 320  
 Val Thr Gly Thr Ser Phe Ser Gly Pro Thr Val Gly Met Ala Ile Gln  
 325 330 335  
 Asn Ser Ile Cys Ser Pro Asp Phe Ser Gly Gly Val Asn Met Asp His  
 340 345 350  
 Ser Thr Ser Ile Leu Gly Val Ala Ser Ser Ile Ala His Glu Leu Gly  
 355 360 365  
 His Ser Leu Gly Leu Asp His Asp Leu Pro Gly Asn Ser Cys Pro Cys  
 370 375 380  
 Pro Gly Pro Ala Pro Ala Lys Thr Cys Ile Met Glu Ala Ser Thr Asp  
 385 390 395 400  
 Phe Leu Pro Gly Leu Asn Phe Ser Asn Cys Ser Arg Arg Ala Leu Glu  
 405 410 415  
 Lys Ala Leu Leu Asp Gly Met Gly Ser Cys Leu Phe Glu Arg Leu Pro  
 420 425 430  
 Ser Leu Pro Pro Met Ala Ala Phe Cys Gly Asn Met Phe Val Glu Pro  
 435 440 445  
 Gly Glu Gln Cys Asp Cys Gly Phe Leu Asp Asp Cys Val Asp Pro Cys  
 450 455 460  
 Cys Asp Ser Leu Thr Cys Gln Leu Arg Pro Gly Ala Gln Cys Ala Ser  
 465 470 475 480  
 Asp Gly Pro Cys Cys Gln Asn Cys Gln Leu Arg Pro Ser Gly Trp Gln  
 485 490 495  
 Cys Arg Pro Thr Arg Gly Asp Cys Asp Leu Pro Glu Phe Cys Pro Gly  
 500 505 510  
 Asp Ser Ser Gln Cys Pro Pro Asp Val Ser Leu Gly Asp Gly Glu Pro  
 515 520 525  
 Cys Ala Gly Gly Gln Ala Val Cys Met His Gly Arg Cys Ala Ser Tyr  
 530 535 540  
 Ala Gln Gln Cys Gln Ser Leu Trp Gly Pro Gly Ala Gln Pro Ala Ala  
 545 550 555 560  
 Pro Leu Cys Leu Gln Thr Ala Asn Thr Arg Gly Asn Ala Phe Gly Ser  
 565 570 575  
 Cys Gly Arg Asn Pro Ser Gly Ser Tyr Val Ser Cys Thr Pro Arg Asp  
 580 585 590  
 Ala Ile Cys Gly Gln Leu Gln Cys Gln Thr Gly Arg Thr Gln Pro Leu  
 595 600 605  
 Leu Gly Ser Ile Arg Asp Leu Leu Trp Glu Thr Ile Asp Val Asn Gly  
 610 615 620  
 Thr Glu Leu Asn Cys Ser Trp Val His Leu Asp Leu Gly Ser Asp Val  
 625 630 635 640  
 Ala Gln Pro Leu Leu Thr Leu Pro Gly Thr Ala Cys Gly Pro Gly Leu  
 645 650 655  
 Val Cys Ile Asp His Arg Cys Gln Arg Val Asp Leu Leu Gly Ala Gln  
 660 665 670

Glu Cys Arg Ser Lys Cys His Gly His Gly Val Cys Asp Ser Asn Arg  
 675 680 685  
 His Cys Tyr Cys Glu Glu Gly Trp Ala Pro Pro Asp Cys Thr Thr Gln  
 690 695 700  
 Leu Lys Ala Thr Ser Ser Leu Thr Thr Gly Leu Leu Leu Ser Leu Leu  
 705 710 715 720  
 Val Leu Leu Val Leu Val Met Leu Gly Ala Ser Tyr Trp Tyr Arg Ala  
 725 730 735  
 Arg Leu His Gln Arg Leu Cys Gln Leu Lys Gly Pro Thr Cys Gln Tyr  
 740 745 750  
 Arg Ala Ala Gln Ser Gly Pro Ser Glu Arg Pro Gly Pro Pro Gln Arg  
 755 760 765  
 Ala Leu Leu Ala Arg Gly Thr Lys Ala Ser Ala Leu Ser Phe Pro Ala  
 770 775 780  
 Pro Pro Ser Arg Pro Leu Pro Pro Asp Pro Val Ser Lys Arg Leu Gln  
 785 790 795 800  
 Ser Gln Gly Pro Ala Lys Pro Pro Pro Arg Lys Pro Leu Pro Ala  
 805 810 815  
 Asp Pro Gln Gly Arg Cys Pro Ser Gly Asp Leu Pro Gly Pro Gly Ala  
 820 825 830  
 Gly Ile Pro Pro Leu Val Val Pro Ser Arg Pro Ala Pro Pro Pro Pro  
 835 840 845  
 Thr Val Ser Ser Leu Tyr Leu  
 850 855

<210> 3  
 <211> 17138  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(17138)  
 <223> n = A,T,C or G

<400> 3  
 ttgggtgacc ctgggcagtg atcacatctc caagcatcag ttttctcacc tgaaaaaaag 60  
 gagatgataa taacactatc tgccttacat gacaattgaa ttgaattttt tttttttttt 120  
 tgagactaag ttcactctg tcgcccaggc tggagtgcag tggcgtgatc ttggctcact 180  
 gcaacctcca cctccccagt tcaagcgatt ctcgtgcctc agttcccgaa gtagctggaa 240  
 ttacaggcac acactaccac gcccggctaa tttagaattt aaataatttta tgtacagtat 300  
 cttatgtacag gacctgacat tataaacaat gatggcgcg cattcttatt taatcagtcc 360  
 taacaaagt cataaaagtg agactgtgt tgcttagctt tttccctagg gcctggatac 420  
 ccccagcccc catgacacac aataggggcc aaatgaatgt gttgtgaaaa aatgaaaaac 480  
 aaaaaacaaa aaagaacatg ctgggattcc ttgacagggt cgtgaagcaa actgaatgtg 540  
 aatgcacaga tggaaatgtg ccagacagtc attccaagca gaatgtgcaaa agactcagtc 600  
 cacaggaaat gcgaaatgcc agggctagtc tcaggagaaaa ctggctcaga agagacagct 660  
 ctcagggagg gctaaagttag gaaagaggct agaaaggcac caggtgaggg aaggctctga 720  
 agccaagcc caagagttct gcctgtctgg caggcagcag ggcctctgga gtttcttggg 780  
 caaagagtgg ctgcttcctg ggtaagggtgg cctgtggaaa atccctgaca actgtgtaga 840  
 gacatgtcgt gagggatggc agggagcata gtgaactagg tttgtggtt ggaatcaggg 900  
 cccctggggc ccagccaagt tggattgttt actatctgtg tgactttgag agtcacttca 960  
 cctttctcaa ctgtaaagtg gggatagcaa cagtatgt cgtatctggcc tgctcacttc 1020  
 tcagcctcac tgtgagaacc aaataagatg atttacagga aagtgc当地 gagatgttg 1080  
 gctgatatcc gcttggagag agcctggagg gtgcattcctc ccattctcca tcacagatgt 1140  
 ggggagggag gcaccctcgc cttccagggg tttccttgc ccaaccac ctcctccaac 1200



ccgcaccctt ggggtccggc tntccctct ccccccttcg gcgcgcgc ttccctttc 4680  
tttcttcccc tcggcttcg tcctttgcc tccccctgc cggtcgct tccttcttc 4740  
ccgttcctc tcccctttt tgttccctcc cgttctttc tccccctgc tcttcctcc 4800  
tcctttcgg tcggccctcg cttctctccc ttecccttct gcccctgc ntttctcc 4860  
ctcgttctc ctgggtgtcg cgtcgcccg gtcggccct tcccccttc cttccgtcg 4920  
ccgtttttt ccccccgctg tttcccggt tcccccttc ctttcctct tcccttcgt 4980  
tcggtcgtt tctcggttcca ttcccgcctc cccgttccg ttcaactcct tcttcctcc 5040  
ttcccgtcc cggttctcc cgaccacaac aacaataaa nnnnnnnnnn nnnnnnnnnn 5100  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5160  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5220  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5280  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5340  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5400  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5460  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnntcagg aggccgagtg gaagaatcgc 5520  
ttgagcccag gttaggcagag gttcagtgg gccgagatcg agccactaca caccagcctg 5580  
ggtaaagag ttagacctcg tctaaaaaa taaaataaaa ataaaataaa ataaaatcta 5640  
gctgagacag attaggtggt ttgcccggg ccctacaact aataaatggc ctatccatt 5700  
attagtgtt ttggctctt catctgtctt atgatccat ttgcagagag ctctcactt 5760  
gttatagata atacatagtt accaatgtat aagcaatata aacccaattt cctaatttgt 5820  
aaaatgaaga taataaaaact acttgcgtca tagagttgt gggaaagatta aataagtc 5880  
tatagatgtt aagtgttcaa aactatgcca gacctatggt aagtgacaag agttgttatt 5940  
gggatttttta aaattattat tattattatt attattattt gagacagagt ctcgctctgt 6000  
ctcccaggct ggagtgcagt ggcgtatct cggctcactg caagctccgc ctcccagggtt 6060  
cacgcattc tcttgcctca gcctcccgag tagctggac tacaggcgcc cgccactaca 6120  
cccggtcaat gtttgtatt ttttagtaca gacagggtt caccgttta tccaggatgg 6180  
tctcgatctc ctgacaccttcat gatccacccg ctttgtcctc ccaaagtgt gaggattacag 6240  
gcgtgagcca cccgaccccg ctaaattact gtttttaaa aatttgaaaa aaaccactga 6300  
gttggagcc agaaaagcag ggtctactc caaccttcat tatctacttc ctggcctcc 6360  
ttggcaagtt ctggggccct ctggccttca gtggctcatc tgtaaatgg gctcttcacc 6420  
ctcctatttgc acccacagag taggagtggc tgcctcttgg tcagccggc acagctgctg 6480  
gctgcagcg gcaggtttgc ctgataattt ttcttgatcca tagtagaggc gggatgttgt 6540  
aacagagacc aagactgtgg agttgtgtat tggcgttcat cactcgagg tgagcctgt 6600  
ggccctgca catcctcctc cccctgcact gccctgcgc cttdcatgtc acctctttt 6660  
gcctacaggc ccagaaataac cgggacttcc agcacctgt aaaccgcaca ctggaaagtgg 6720  
ccctcttgc ggacacagtg agtgcggac agggcaaccc ccacccagg cccctgacca 6780  
tggcaacccc tcttctgagc cccagctgtc tttcagttt tccggccct gaatgtacga 6840  
gtggcaactag tgggcctgga ggcctggacc cagcgtgacc tggtggagat cagcccaa 6900  
ccagctgtca ccctcgaaaaa cttccctccac tggcgcaggg cacatttgc gcctcgattt 6960  
ccccatgaca gtgcccagct ggtgacgtaa gggccccaga ctcagccaga gaggccagtc 7020  
ctgtcttggc caaatttaca ccccttcage accctaccc agccctgaa gctctgacca 7080  
ccgtggcttc tggccctgaa cttagcctc tctgtccac agtggactt cattctctgg 7140  
gcctacggg ggcattggca ttcagaactc catctgttct cctgacttct caggaggtgt 7200  
gaacatggg agttatttcc aggtctcctc ctcattccca attcaagtcc tcccaagtgt 7260  
ggtggcattt atgcactgaa acccccstat aaagttgccc aaccccaaag ctacaggtat 7320  
agaggggtgga ggtacgtat gtggcctttt ctatcaggga gccctcgctt atggccagct 7380  
agtacacagt tacacagtca tcccctgtc agtcttccca tttcttagag gagggttagga 7440  
ggcagctaag gcccaaagaa cagaggtat ctccctccag tgagggaggg ggacagagct 7500  
gagctagaac ccaagttct gccatccagg cctgggttct cctacttttag aagcaattca 7560  
ggagggaaagc agtgcctgtc gagtgcctcc gaggtcagac gtggagggaa caggagcaga 7620  
gagggtggtc tggcattgt ggtggaggca gctggggact ggacctacag taccctccc 7680  
caatgacagg accactccac cagcatctg ggagtgcct cctccatagc ccatgagtt 7740  
ggccacagcc tggcctgga ccatgattt cctggaaata gctggccctg tccaggttcca 7800  
gccccagcca agacctgcat catggaggcc tccacagagt aagtagctgc aggatggaga 7860  
gagggtgtgg ggcaggggggc agggannnn nnnnnnnnnn nnnnnnnnnn tgtagagtt 7920  
accttccttgc ccaccctccc cagcttcata ccaggcctga acttcagcaa ctgcagccga 7980  
cgggccctgg agaaagccct cctggatgga atggggcagct gccttcgca acggctgcct 8040

14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
999  
1000



gaggttccgc tgcctccaag ccggacttag ggcttcaaga ggcggcggtg ccctctggag 14940  
 tcccctacca tgactgaagg cgccagagac tggcggtgtc ttaagactcc gggcaccgcc 15000  
 acgcgctgtc aagcaacact ctgcggaccc gccggcgtag ttgcagcggg ggcttgggaa 15060  
 ggggctgggg gttggacggg attgaggaag gtccgcacag cctgtctctg ctcagttgca 15120  
 ataaaacgtga catcttggga gcgttccccca gagttgtct gttctagaa cccgggtcgc 15180  
 tcctgctgcg gttccaggtt tggccgcag aagacgctgc cgcctcagac gaggcgccc 15240  
 tgtgtggggc gggagtagcca gaaagggtcg gcgtgtgtcc cgggatgtct cgcagcttcc 15300  
 ctctgcccag actgggggtgg ctttcggcgc aatctgtcaa gctgttgac ctgcgttccc 15360  
 cactctgacc attggctggg aaaagtggat ctggctgatg ctcccagagc ccaggagcca 15420  
 gggcggagcg gggcggcgcc tgctcccacg atcccaaggc cgcgcaccc 15480  
 ctccgcgcgc gccacttgcg ggatcgggaa caaagggtct ttgtacaggc cgcaaccacc 15540  
 tcattacttc gtcttaggaa ctggggccgc gtggggcccc agcccgaaac gaagggtgtgg 15600  
 agcggcaagg gacagacgcc aatcttaaag tgagcatcta ggcgcacc 15660  
 tagggaaagggt ggtcccagag ctgtgttgc cttccgcctt gcaactgtccc tagatgtgca 15720  
 aagaaaacgg ggcagtgcat gaaggtgggt ggacaggctt catggatctt cgcccgcc 15780  
 tcactttccc ctatctggc aaaggttatg tacccttatt taaaatcttc caaacttcta 15840  
 ataaggcagt ctaccctgca ctaaagcaga cacgaaagag atgacctccc taaaaataact 15900  
 gctgttggaa tacgtccccc cttccgcgc cctcgcagtg cggtgcagcc tcagtggaaag 15960  
 ctttggcgaa cctggcgcgc gctgcgggtc acagagggtt aactggagtt ggcgctgggt 16020  
 ggagaggagg agacgcgc cccatggcgg aaagttattc agggggcgccc tcagtgaatc 16080  
 tccgtacccc actccccc ccccaacttc cctcttact ttgtacctt ctctccctcga 16140  
 ctgtgaagcg ggcgggacc tgccaggcca gaccaaaccg gaccccgccc 16200  
 tgctgcccct gctgcggact gtcctatggg ccgcgtcctc ggctccccc 16260  
 ctccagcctc cgcacgttag tctactggaa ctccagtaac cccaggtagc cgggcccgaac 16320  
 cgggcgagcg cacagccaag tctgcgcgc cccgggctt ggcgcgc 16380  
 ctttgcgcgg cgcgcctga gcctggccgc ggcgggggc tcctttgtt gagccggcg 16440  
 gggagggggg aggaggcgagg ggccaggcgcc gccctgggtc tccccacagc cgcacgtgt 16500  
 tggggggcag gcagaagacc ccagccccaa gggttgtcta ggggggtctg gagcatggag 16560  
 ctggggggc ctttgcgcgc actccggctt ccgcgcgc 16620  
 ccagcctccc gcaggctgaa gctgtggctg acgaacttga gagcgaggga gggggctta 16680  
 ctcttatgaa agagcgtggg ttactctcc tccgcgtggg tctcacctt ggctctcact 16740  
 ctgtctcctg atctcatttg ctatctctgc tttcatctt gtctttattt gtccttctgt 16800  
 ttctttccag tgtcagccct gccttcttag ccgaatcacc tctggcaag tctcgatcc 16860  
 ttccctaacct catttatctc acctgtataa tgggctaata atacctagta ccctggaaag 16920  
 tctggcaggg taagttaggt catgtatgt aaagaggctc aggctgtaca gatataaact 16980  
 attatttctt tctctctctt gagctgcctt ctttgaacc ttagtatatt ttactgtttc 17040  
 catccccctc cccaaatctc cctgcctctc ctatcccta tctgttttc tttctgattt 17100  
 tctacttgag acaatctgtg actattcatt tcttactt 17138

<210> 4  
 <211> 814  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> VARIANT  
 <222> (1)...(814)  
 <223> Xaa = Any Amino Acid

<400> 4  
 Met Arg Leu Ala Leu Leu Trp Ala Leu Gly Leu Leu Gly Ala Gly Ser  
 1 5 10 15  
 Pro Leu Pro Ser Trp Pro Leu Pro Asn Ile Gly Gly Thr Glu Glu Gln  
 20 25 30

Gln Ala Glu Ser Glu Lys Ala Pro Arg Glu Pro Leu Glu Pro Gln Val  
     35                 40                 45  
 Leu Gln Asp Asp Leu Pro Ile Ser Leu Lys Lys Val Leu Gln Thr Ser  
     50                 55                 60  
 Leu Pro Glu Pro Leu Arg Ile Lys Leu Glu Leu Asp Gly Asp Ser His  
     65                 70                 75                 80  
 Ile Leu Glu Leu Leu Gln Asn Arg Glu Leu Val Pro Gly Arg Pro Thr  
     85                 90                 95  
 Leu Val Trp Tyr Gln Pro Asp Gly Thr Arg Val Val Ser Glu Gly His  
     100                105                110  
 Thr Leu Glu Asn Cys Cys Tyr Gln Gly Arg Val Arg Gly Tyr Ala Gly  
     115                120                125  
 Ser Trp Val Ser Ile Cys Thr Cys Ser Gly Leu Arg Gly Leu Val Val  
     130                135                140  
 Leu Thr Pro Glu Arg Ser Tyr Thr Leu Glu Gln Gly Pro Gly Asp Leu  
     145                150                155                160  
 Gln Gly Pro Pro Ile Ile Ser Arg Ile Gln Asp Leu His Leu Pro Gly  
     165                170                175  
 His Thr Cys Ala Leu Ser Trp Arg Glu Ser Val His Thr Gln Thr Pro  
     180                185                190  
 Pro Glu His Pro Leu Gly Gln Arg His Ile Arg Arg Arg Asp Val  
     195                200                205  
 Val Thr Glu Thr Lys Thr Val Glu Leu Val Ile Val Ala Asp His Ser  
     210                215                220  
 Glu Ala Gln Lys Tyr Arg Asp Phe Gln His Leu Leu Asn Arg Thr Leu  
     225                230                235                240  
 Glu Val Ala Leu Leu Asp Thr Phe Phe Arg Pro Leu Asn Val Arg  
     245                250                255  
 Val Ala Leu Val Gly Leu Glu Ala Trp Thr Gln Arg Asp Leu Val Glu  
     260                265                270  
 Ile Ser Pro Asn Pro Ala Val Thr Leu Glu Asn Phe Leu His Trp Arg  
     275                280                285  
 Arg Ala His Leu Leu Pro Arg Leu Pro His Asp Ser Ala Gln Leu Val  
     290                295                300  
 Thr Gly Thr Ser Phe Ser Gly Pro Thr Val Gly Met Ala Ile Gln Asn  
     305                310                315                320  
 Ser Ile Cys Ser Pro Asp Phe Ser Gly Gly Val Asn Met Asp His Ser  
     325                330                335  
 Thr Ser Ile Leu Gly Val Ala Ser Ser Ile Ala His Glu Leu Gly His  
     340                345                350  
 Ser Leu Gly Leu Asp His Asp Leu Pro Gly Asn Ser Cys Pro Cys Pro  
     355                360                365  
 Gly Pro Ala Pro Ala Lys Thr Cys Ile Met Glu Ala Ser Thr Asp Phe  
     370                375                380  
 Leu Pro Gly Leu Asn Phe Ser Asn Cys Ser Arg Arg Ala Leu Glu Lys  
     385                390                395                400  
 Ala Leu Leu Asp Gly Met Gly Ser Cys Leu Phe Glu Arg Leu Pro Ser  
     405                410                415  
 Leu Pro Pro Met Ala Ala Phe Cys Gly Asn Met Phe Val Glu Pro Gly  
     420                425                430  
 Glu Gln Cys Asp Cys Gly Phe Leu Asp Asp Cys Val Asp Pro Cys Cys  
     435                440                445  
 Asp Ser Leu Thr Cys Gln Leu Arg Pro Gly Ala Gln Cys Ala Ser Asp  
     450                455                460  
 Gly Pro Cys Cys Gln Asn Cys Gln Leu Arg Pro Ser Gly Trp Gln Cys  
     465                470                475                480

Arg Pro Thr Arg Gly Asp Cys Asp Leu Pro Glu Phe Cys Pro Gly Asp  
485 490 495  
Ser Ser Gln Cys Pro Pro Asp Val Ser Leu Gly Asp Gly Glu Pro Cys  
500 505 510  
Ala Gly Gly Gln Ala Val Cys Met His Gly Arg Cys Ala Ser Tyr Ala  
515 520 525  
Gln Gln Cys Gln Ser Leu Trp Gly Pro Gly Ala Gln Pro Ala Ala Pro  
530 535 540  
Leu Cys Leu Gln Thr Ala Asn Thr Arg Gly Asn Ala Phe Gly Ser Cys  
545 550 555 560  
Gly Arg Asn Pro Ser Gly Ser Tyr Val Ser Cys Thr Pro Arg Asp Ala  
565 570 575  
Ile Cys Gly Gln Leu Gln Cys Gln Thr Gly Arg Thr Gln Pro Leu Leu  
580 585 590  
Gly Ser Ile Arg Asp Leu Leu Trp Glu Thr Ile Asp Val Asn Gly Thr  
595 600 605  
Glu Leu Asn Cys Ser Trp Val His Leu Asp Leu Gly Ser Asp Val Ala  
610 615 620  
Gln Pro Leu Leu Thr Leu Pro Gly Thr Ala Cys Gly Pro Gly Leu Val  
625 630 635 640  
Cys Ile Asp His Arg Cys Gln Arg Val Asp Leu Leu Gly Ala Gln Glu  
645 650 655  
Cys Arg Ser Lys Cys His Gly His Gly Val Cys Asp Ser Asn Arg His  
660 665 670  
Cys Tyr Cys Glu Glu Gly Trp Ala Pro Pro Asp Cys Thr Thr Gln Leu  
675 680 685  
Lys Ala Thr Ser Ser Leu Thr Thr Gly Leu Leu Leu Ser Leu Leu Val  
690 695 700  
Leu Leu Val Leu Val Met Leu Gly Ala Ser Tyr Trp Tyr Arg Ala Arg  
705 710 715 720  
Leu Xaa Gln Arg Leu Cys Gln Leu Lys Gly Pro Thr Cys Gln Tyr Arg  
725 730 735  
Ala Ala Gln Ser Gly Pro Ser Glu Arg Pro Gly Pro Pro Gln Arg Ala  
740 745 750  
Leu Leu Ala Arg Gly Thr Lys Ser Gln Gly Pro Ala Lys Pro Pro Pro  
755 760 765  
Pro Arg Lys Pro Leu Pro Ala Asp Pro Gln Gly Arg Cys Pro Ser Gly  
770 775 780  
Asp Leu Pro Gly Pro Gly Pro Gly Ile Pro Pro Leu Val Val Pro Ser  
785 790 795 800  
Arg Pro Ala Pro Pro Pro Pro Thr Val Ser Ser Leu Tyr Leu  
805 810